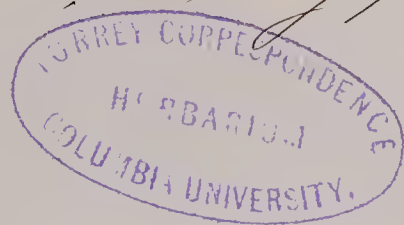


St. Louis, Mo., May 7th 1857.

Prof. Dr. Torrey -



My dear Sir -

Being apprized by Mr. E. Durand, of Phil., that the plates I commenced printing and was prevented from finishing were being printed under your supervision, I take the opportunity to thank you for my dispositions, arrangements or suggestions suggested by you in the interest of the work, and I am gratified Mr. Durand ^{so readily acquiesced} ~~did not~~ in my name. At the same time I would ask you to have 10 extra copies of the plates done for me, provided the cost does not exceed \$5.00. If so, let it be done up to that sum, I would be pleased if you would inform me about that point - simply directing, under my address, to "St. Louis, Mo." - but I know your time is valuable -

If the Proceedings of our St. Louis Acad. of Science has come to your view, I would add some remarks about the 'Series', which perhaps you may have a free moment

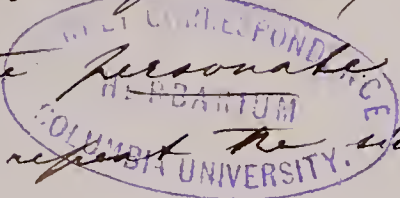
to peruses. There are some improvements on the single files, as published in the Philada Acad. ^{Proceedings} some deceptive external, or ^{"type"} - , affinities having been corrected. In the Phila Proc. I have thought that Loasaceae and Passifloraceae might connect, but the genera being tropical almost entirely I could not make sure, and found cause to disconnect them.

I have paid most attention to Dicotyledons, and have arrived at the following results: 1) There is a positive single file ~~or~~ connection, a beginning and end. 2) If subdivided into the 5 chief heads ^{which} you find in the St. Louis Proc., each of these files presents two points, where a striking identity of external obtains; so as to be realizable by the figure of a traversing of files, assuming a common character at the points of intersection. 3) These intersections, producing three parts to each file, divide the same so as to present as many distinct habitus, terminated at either ^{end} by an epigynous form belonging to that habitus, as e.g. Ribes and Abipralis at the ^{respective} extremities of the crassulaceo-saxifragous series. 4) All ~~these~~ tripartitions of these bars seem to round off into themselves, besides connecting

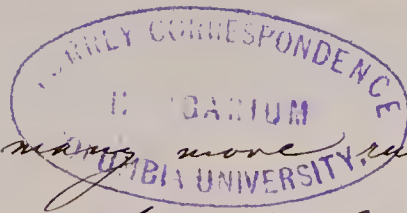
back and forward, so as to be realizable as the
links of a chain: Begoniaceae round off into Hydro-
charitaceae - Nymphaeaceae (epizyous), besides connecting with
Nepenthes - Violaceae - Cisso hypogynous, and aralioid - umbelli-
fero - epizyous forms. Begoniaceae and ^{winged} Umbelliferae
have a less striking relation, and the begoniaceous habit
is repeated in Balsaminaceae. The climbing, clematidoid - ^{pinate}
form, ^{of} Torraceae, their petals and epizyous disc "monocent Um-
belliferae", while Bartoniae, or "epizyous Glaucium" or "epi-
zyous Capparis" perhaps, commence the Hypericoid - Cus-
cutid - ^{of} Portulacaceae line, terminating with Cacti,
that bear so striking a resemblance to Bartoniae ("epi-
zyous Glaucium", or, "Cereus-flower on a glaucous stem")
as to justify the conception or figure of recurrence on
a circular junction of ends, including the ceasroid types
Again Cacti and Ribes round off the crassae type, Lud-
wigias and Philadelphus the myrtiflorous one; Hydran-
gea and Viburnum the personato-tubiflorous one; Centr-
anthes and Trachelium (one coming from Loisicoid-Valerianae,
the other from Lobeliaceae merging into Campanulo-Cucurbit-
aceae) include the aggregate or compositoid types Cuscut-
itaceae and Gnomoniae (allied to Dipterocarpaceae etc.) seem to
round off the Parifloro-columniferous series. As another

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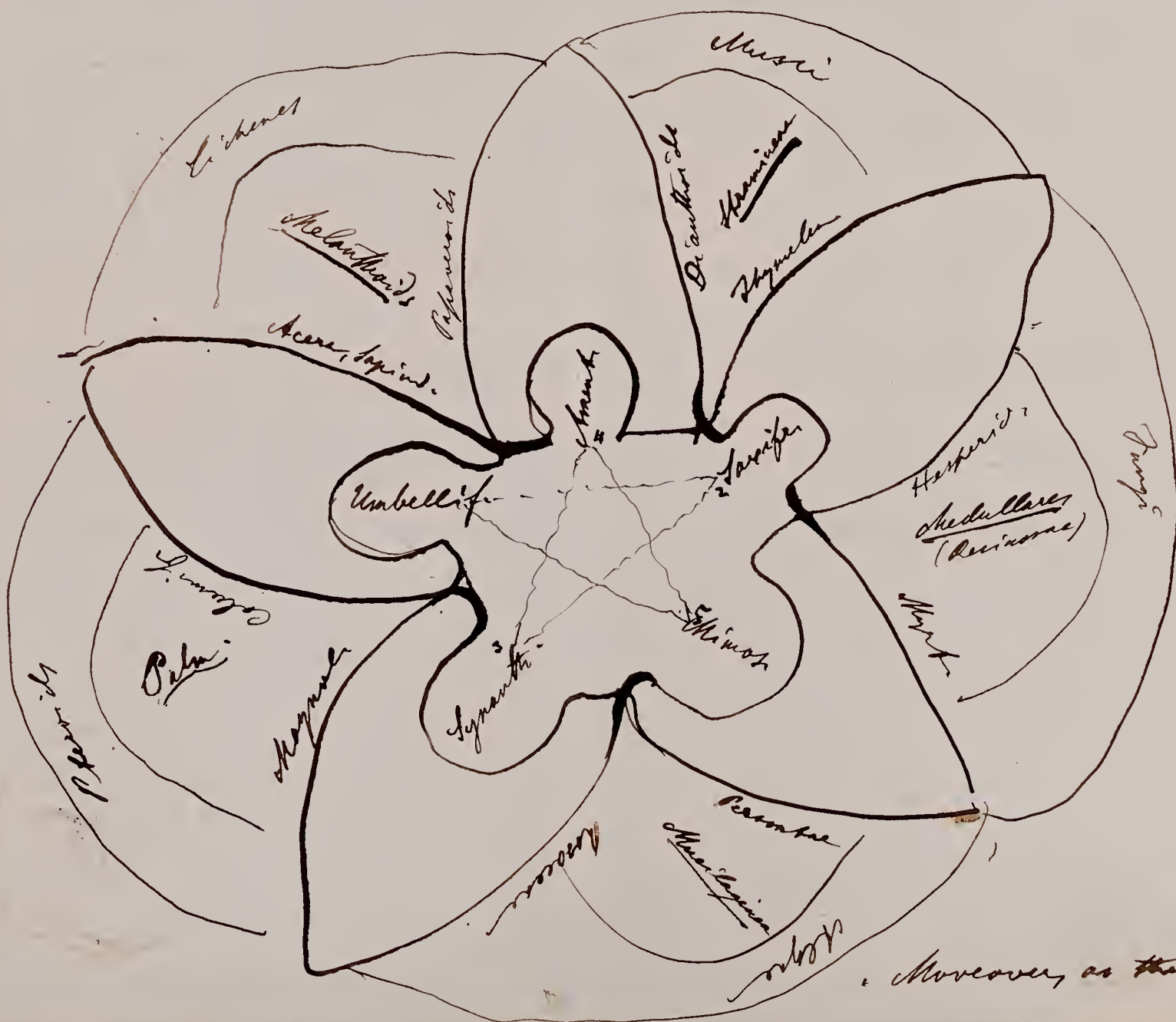
instance might be cited Mimoseae and Sanguisorbaceae, including the leguminosae type &) Each of the ray-subtending bars afford two types, in correspondence with the two sides of the ray: Leguminosae on their inner, it representing the myrtaceous (Metrosideros) type, in the papilionaceous the personate one, Amentoides in their amentaceous part represent the urate pandurate forms of papaveroides, oleraceae (Polygonaceae Paronychia) the habit of the dianthous tribes



(Phyllotactic star of Relationship, as indicated above)



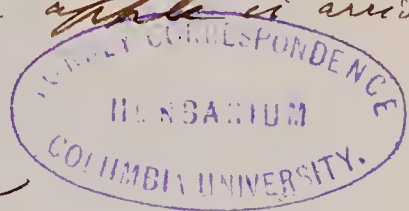
I have little doubt many more rules may be dis-
 cussed yet, on the basis of the absolute series of
totality of relation and, on the other hand, of superficial
 relations or habits. After all the apple (*Pyrus*), being
 the last (epigynous) evolution of Rosiflorae, ^{at} the head of
 the Kingdom, by its cross section of fruit may be found
 furnishing the A and Ω of the whole schematic figure



Moreover, as the

five points of intersection have great and striking
 resemblances (^{Umbelliferae - Compositae - Liliaceae} Calycanthus to Cactus), and certain parts of
 the base likewise (Dianthus, Fagus): they may aptly
 represented ~~as~~ as meeting at a central point or eyes.
 The subtending "tendons" will then assume their round,
 as a closed set or habitual type, all, except the crassae
 type, being remarkable for their nucleiferous constitution
 (Umbelliferae, Anemoneae, Mimosaeeae, Lycopodiaceae), and
 thus the panto-pentic figure of the apple is arrived
 at, as subjoined.

With much obligation I remain
 Yours respectfully



J. C. Hilgard, M.D.

